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Our File No. 9281-4693

Client Reference No. N US02180

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Application of: )  
Kiyoshi Sato )  
Serial No. To Be Assigned )  
Filing Date: Herewith )  
For: Thin Film Magnetic Head Having )  
Toroidally Wound Coil )

**PRELIMINARY AMENDMENT**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

Prior to examination of the above-identified application, please amend the application as follows:

**Amendments to the Specification** begin on page 2 of this paper.

**Amendments to the Claims** are reflected in the listing of claims which begins on page 4 of this paper.

**Amendments to the Drawings** begin on page 7 of this paper and include both an attached replacement sheet and an annotated sheet showing changes.

**Remarks** begin on page 8 of this paper.

## **Amendments to the Specification are as follows:**

Please amend the paragraph beginning on page 30, line 21 and ending on page 31, line 4 as follows:

Also, a Gd-determining layer 438 is formed on the flat surface to extend from a position at a predetermined distance from the surface facing the recording medium in the height direction (the Y direction shown in the drawing)9. Like in the thin film magnetic head shown in Fig. 1, the front end surface 438a of the Gd-determining layer 438 is positioned on the protruding layer 32, and the rear end surface 438b of the Gd-determining layer 438 is positioned on the back gap layer 33. The rear end surface 438b of the Gd-determining layer 438 may be positioned on the boundary 33b between the upper surface of the back gap layer 33 and its front end surface 33a.

Please amend the paragraph beginning on page 38, line 24 and ending on page 39, line 1 as follows:

As shown in Fig. 13, a separating layer 28 made of Al<sub>2</sub>O<sub>3</sub> or the like is formed on the upper shield layer 27. Also, a lower core layer 529 may be provided on the upper gap layer 26 without the upper shield layer 27 and the separating layer 28. In this case, the lower core layer 529 also serves as an upper shield layer.

Please amend the paragraph beginning on page 53, line 21 and ending on page 54, line 5 as follows:

The average thickness T2 of the second insulating sub-layers 563 formed on both ends 558a of the first insulating sub-layer 558 is preferably larger than the average thickness T1 of the first insulating sub-layer 558. The average thickness T2 of the second insulating sub-layers 563 is preferably in the range of 0.3 to 3  $\mu$ m. When the average thicknesses T1 and T2 of the first and second insulating sub-layers 558 and 563 are controlled as described above, the upper surface 560a of the upper core layer 560 can be brought nearer to the lower surfaces of the second coil pieces 556 to improve the

magnetization efficiency and improve the insulation between both end surfaces 560b of the upper core layer 560 and the second coil pieces 556.

**Amendments to the Drawings are as follows:**

The attached drawing sheet includes changes to Fig. 12. In Fig. 12, previously omitted label 92 has been added. Applicant respectfully requests that Fig. 12 be replaced with the corrected Fig. 12 enclosed herewith. The correction to the figure has been marked in red. Applicant respectfully requests that the Examiner approve the correction. Applicant will submit corrected formal drawings upon receiving a Notice of Allowance.